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INVESTIGATIONS INTO "EXTRAORDINARY HUMAN BODY FUNCTION" IN CHINA

Information about studies of psychic functioning in China have been previously published in Psi Research. We continue this discussion by publishing materials presented at the Invited Speakers from the People's Republic of China session of the Society for Psychical Research/Parapsychological Association Conference which was held at Trinity College, Cambridge, England, August 16-20, 1982. Although some points of these materials have been discussed in our earlier publications, we wish to provide our readers with yet a more detailed overview. - Ed.

Report on Investigations into "Extraordinary Human Body Function" in the People's Republic of China

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Although interest in exceptional human functioning has historically been part of China's tradition, recent widespread interest was triggered by a report in the March 11, 1979, Sichuan Daily. In that report it was claimed that a young boy, 12-year old Tang Yu, was able to read written material placed in physical contact with his ears. Although this claim was soon being criticized as unscientific in, e.g., The People's Daily in May, 1979, reports began to surface from all over China that children elsewhere were duplicating this feat.

These reports caught the attention of scientists, many of whom assumed that some form of rudimentary biological function was at cause, since the early reports typically involved "reading" through the skin. Thus the initial approach to the phenomenon appears to parallel in many respects the earlier work of Jules Romain on "eyeless sight" [1] and similar Soviet investigations into so-called

"dermo-optic perception" [2]. From this beginning, such functioning in China goes under a rubric which translates as Extraordinary Human Body Function (EHBF); this phrase has now been broadened to include the entire range of phenomena that in the West are called "psi," since it was not long before the reading of Chinese characters, numbers, etc., extended to experiments involving non-contact forms of the phenomena (e.g., use of sealed containers, long distances, etc.).

As a result of growing scientific interest, in February 1980 a conference on parapsychology was held in Shanghai, sponsored by one of China's major monthly scientific journals, Nature (Ziran Zazhi). Participants from over 20 colleges and research institutes were in attendance, along with 14 children purported to possess EHBF skills, which they demonstrated at the conference. As a result of these demonstrations a number of observers returned to their institutes to set up research programs, and rigorous investigations began in earnest. These efforts led to a second conference on the subject in May 1981, held in Chongqing, and a continuing series of papers published in Ziran Zazhi, some of which have been translated and are available in English [3,4].

As in the West, such research activities, conferences and reports are not without controversy. Some criticism of methodology and reporting has appeared in the literature [5], and in October 1981 the State Science Commission set up a special group to study the phenomena, some of whose reports have cited cases in which the possibility of deception could not be ruled out. Nonetheless, vigorous research efforts are continuing in a number of university and research institutes, and a National Society of Human Body Science is in the process of being formed.

October of 1981 was also the month in which a group of American and Canadian scientists, physicians and educators, including the author, had an opportunity to visit the People's Republic of China, specifically for the purpose of meeting with Chinese researchers working in the EHBF area. The tour, organized by Dr. Stanley Krippner, took us to the cities of Beijing (Peking), Xian and Shanghai, where we met some of the "EHBF children," and talked to a number of

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investigators working with them. During our visit, five formal technical meetings were held with the scientists, physicians, and journal editors working in the field. The first was at the Friendship Hotel in Beijing; the second at the Beijing Medical College; the third, at Beijing University; the fourth at the Chinese Academy of Sciences Institute of High Energy Physics in Beijing; and the fifth at the Yanan Hotel in Shanghai with the editors and staff of Nature.

Our first discussions, held at the Friendship Hotel in Beijing, brought us together with researchers and educators from the following institutions:

- (1) Beijing University physicists and biologists
- (2) Institute of High Energy Physics (Ch. Acad. Sci.)
- (3) Institute of Biophysics (Ch. Acad. Sci.)
- (4) Institute of Automation (Ch. Acad. Sci.)
- (5) Beijing Astronomical Observatory (Ch. Acad. Sci.)
- (6) Institute of Semiconductors (Ch. Acad. Sci.)
- (7) Institute of Physics (Ch. Acad. Sci.)
- (8) Physics Dept. of Beijing Teachers' College
- (9) Institute of Traditional Chinese Medicine of Beijing

This was followed by visits to Beijing Medical College, Beijing University, and the Chinese Academy of Science's Institute of High Energy Physics. It was at this latter institute that we had our first opportunity for somewhat in-depth discussions of specific experiments.

Their basic experiment, apparently replicated many times under widely varying conditions, consisted of the remote viewing of Chinese characters or numbers sealed in an opaque bakelite container, inside of which was also some form of detector to register possible physical effects associated with the perceptions. The detectors used in this format included X-ray, nuclear emulsion and photographic films, photoelectric tubes, thermoluminescent dosimeters, and biological detectors. The claim made (supported by raw data materials shown us, a motion picture film of the experiments, and published papers) was that physical effects were registered during perception, and absent in the absence of perception. These included fogging of the film, and

pulses on electrical output devices of the various detectors. The individuals carrying out the experiments were physicists, well respected in their own fields, using standard techniques and procedures familiar to them, as far as apparatus and analysis are concerned. It also appears that their work has some degree of official sanction, in that work in this area is considered part of their official work schedule, and in our visit we were cordially received by two of the Institute's Deputy Directors. These factors lend de facto credibility to their claims.

Later in the trip we met at length over a two-day period with the staff and Editor-in-Chief (Mr. He Chongyin) of Nature journal (Ziran Zazhi), and from him obtained an overview of the experimentation, results, conferences, and publication of the Chinese efforts.

It is impossible, of course, for one to evaluate accurately a nation's progress in the scientific study of exceptional human functioning on the basis of a visit of less than two weeks, and the exchange of a few publications. As in the West, the study of exceptional human functioning is an endeavor which has provided many questions and few answers. Since this type of research continues to be in a state of flux throughout the world, one can say, however, that it represents an area where China has the opportunity to make important contributions. Those of us who visited China were particularly impressed by their scientists' efforts to correlate research findings with their ancient and distinctively national Chinese concepts (especially those of their non-Western medical traditions) on the one hand, and the contemporary perspective of modern science on the other hand. A well-known example is the search for electrophysiological correlates of acupuncture points and meridians; less well known (in the West) are the Chinese studies on the possible relationship between EMBF and Qigong, an ancient discipline, involving movement and deep breathing, said to promote health and well being. Through exploring this rich historical tradition scientifically, the Chinese scientists may well contribute fresh ideas to the study of exceptional human functioning.

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Study of the Extraordinary Function of the Human Body in China

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On March 11, 1979, it was reported for the first time in Sichuan Ribao that a 12-year-old boy, Tang Yu, in Dazu County, Sichuan Province, had been discovered to be able to "recognize the characters (Chinese ideograms) with his ears." This evoked strong repercussions at home and abroad. Subsequently, more than ten teenagers who also had this kind of function were discovered one after another in Beijing, Anhui, Hubei and other places. In September, 1979, Nature Journal (Ziran Zazhi) carried a report on "Non-visual Pattern Recognition," written by a correspondent of the journal on the basis of his personal observations. In this article it was confirmed that the exceptional function of the human body, or, as it was depicted in the newspapers, "recognizing characters with the ears," actually existed and is worth studying. The Journal then, in its Nos. 10-12

issues, carried in succession other experimental observations [1-4] by scientists of Beijing University, Anhui Teachers University and other units, which verified the authenticity of the function.

In February 1980, in Shanghai, the Nature Journal editorial department presided over the "First Science Symposium on the Extraordinary Function of the Human Body," attended by representatives from eight provinces and three municipalities. After this the various exceptional functions of the human body, including "recognizing characters with the ears," became generally known as the "extraordinary function of the human body," which is now the general term being used in the Chinese literature.

With the impetus of the symposium, the research work has developed further in various places, and in May 1981 the "Second Science Symposium on the Extraordinary Function of the Human Body" was held in Chongqing. Some famous scientists submitted their papers [5] and many others read their research reports at the symposium. Diverse thoughts from different schools were incorporated, but no conclusion was drawn at the symposium. Prior to the conclusion of the symposium the Preparatory Committee of the Chinese Human Body Science Institute was established after deliberation and consultation. Afterward, in January 1982 the preparatory committee convened a special discussion in physics.

The China Encyclopedic Almanac of 1981, published by the China Great Encyclopedia Press, has the vocabulary entry "extraordinary function of the human body" in its column on science and technology, which introduces the development of the study of the extraordinary function of the human body in China [6], and also points out that "there are still some people holding skeptical attitudes with respect to the authenticity of the extraordinary function of the human body."

The Chinese scientists have carried out experimental studies on the following aspects during the past three years:

Under strictly controlled experimental conditions, the authenticity of the special inductive function of the human body, such as "recognizing characters with the ears" was

verified. In order to rule out possible artifacts as well as false results, and to ensure the level of scientific rigor while continually improving the experimental methods, the tests have been designed in keeping with the following requirements:

- (1) A specimen ("target" for recognition and its package) has to possess certain characteristics of "uniqueness" to ensure that it not be duplicated and exchanged in designed experimental conditions.
- (2) The "target" for recognition has to be sealed in "opaque" and "irreversible" forms, so that, under the designed experimental conditions, if the package is opened it will be destroyed and cannot be completely restored; if it is not opened, the "target" in it cannot be recognized with ordinary sight.
- (3) Both the experimenters and the subject should be unaware of the content of the "target" to ensure "double blind" conditions and to avoid hints (cues).
- (4) Reliable on-the-spot observation by more than one person and/or by a video recorder, the latter of which can be replayed for examination.
- (5) The possibility of "guess by chance" should be ruled out statistically from the experimental results; in other words, the results should have "statistical significance."

Under these experimental conditions, some subjects whose functions were stronger were tested with dozens of specimens. The rate of absolutely correct identification was more than 80 percent [1,7], which indicated that one of the special inductive functions, the so called "recognizing characters with the ears," existed objectively.

Scientists in Beijing University further found in experiments that among over 70 children, approximately 10 old, there was a considerable proportion of subjects who had the special inductive function of "recognizing characters with the ears" [8,9]. They concluded that this kind of function may be a general phenomenon to a certain extent among children in the relevant age-group, and inferred that this function was probably a potential physiological function of the human body. The "universality" discovered thus far also verified the authenticity of the extraordinary function of the human body and provided more subjects for research.

Our experimental results indicated that although the subjects who had the extraordinary function were not rare, there were few who had a strong stable function over the long term. In some conditions, the experimental results could be reproduced, but they were not as repeatable on demand as in ordinary physical and chemical experimentation. They often showed apparent individual differences, and an vacillating "instability" in the case of one subject.

As some researchers reported, apart from "recognizing characters with the ears," the human body may possess many other extraordinary functions. The researchers have searched after and observed such functions as psychokinesis, teleportation and so forth. Recording the equivalence-time curve of moving the hands of a watch by the extraordinary function of the human body, and observing the possibility of transferring a specimen out of a container from a hole smaller than the specimen itself by this kind of function are two examples.

Some researchers have also carried out experimental investigations to determine the mechanism of the human body extraordinary function. The main efforts in this respect include the study of special properties of the information carrier and human body radiation. The "target" was initially sealed into a container which was made of different materials and in which there were different sized slits. Tests were then carried out so as to discover the effect of differences in shielding materials and the size of slits on the test results, thereby distinguishing some special properties of the information carrier. On the other hand, the human body radiation of a subject in an

extraordinary functional state was tested by the use of modern technology. The published papers on this subject include the effect of human body radiation on biodetectors and photon counters [12,13] and on some photosensitive detectors [14], as well as the determination of the magnetic field distribution over an individual subject's body surface [15].

Experiments were also conducted involving individuals with extraordinary functions being irradiated on the ears, hands and other sites with weak monochromatic light from a spectrometer. They confirmed that in these sites there existed an ability to perceive and distinguish the color of visible light [16], and that persons who have extraordinary functions could perceive near-infrared light [17]. Experiments also confirmed that such persons could distinguish the north pole from the south pole of a magnet [15] and could tell north from south by their extraordinary functions [18,19]. Some researchers have also carried out experiments to investigate the image transfer function under bright-contrast stimulus conditions [20], the perceptibility of an optical image in space [21], and the sensitivity to different light waves [22].

Published studies of the property of information processing and display [23-27] have shown that during the process of recognizing targets by means of the special inductive function of the human body the following characteristics of perception are experienced by the subjects: unfolding, enlarging, recognizing layer by layer, selecting by contrast, displaying step by step, and adjusting directions automatically.

We consider, however, that experimental studies on the extraordinary function mechanism are preliminary, and that they need further replication and deepening. On the basis of the experimental investigations, some researchers in China have made preliminary inquiries into the extraordinary function mechanism of the human body from a theoretical standpoint.

Information concerning extraordinary function of the human body as recorded in the ancient Chinese literature is now beginning to be collected for evaluation [28]. In China, research on the extraordinary function of the human

body has already attracted the interest of many scientists specializing in biology, physics, psychology, etc. Special attention, dynamic support, and specific direction have also been gained from certain famous scientists. Professor Qian Xuesen published special papers [5,29] covering the relationship between the extraordinary function of the human body, qigong, and Chinese traditional medicine, and emphasized the importance of developing the potential capacity of the human being and exploring and developing a fundamental discipline of human body science. In his "Fundamental Research for Developing the Human Body Science" he pointed out that Chinese traditional medical theory, qigong, and extraordinary function as centered around the qigong state are keys to research in the human body sciences, which include the basic principles of extraordinary human body function. Based on systems sciences, he also proposed the theory of functional states of the human body. These theoretical viewpoints have been playing an important directive role in launching fundamental research in the human body sciences.

We consider that, in the future study of extraordinary functions of the human body in China, special attention should be paid to the integration of the cream of Chinese traditional culture with the principles of modern science and technology, and the integration of qigong and Chinese traditional medical theory with the research of extraordinary function. This approach will bring the research work on the human body function into the orbit of modern science and technology.

Research into extraordinary functions of the human body is of great importance, both theoretically and practically. We firmly believe that there is nothing that cannot be understood in the world; there are only things that have not yet been understood. We are full of confidence as to the prospect of the study of the extraordinary function of the human body in China.

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An Approach to Psi Radiation Signals

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The interaction or correlation between mind and body has puzzled scientists for a long time. As far as the so-called psi processes are concerned, this problem becomes even more profound. Many subjective approaches have been

proposed in the histories of civilized nations, especially in that of the ancient Chinese. However, such approaches seem to be incompatible with the framework of Western science after its Renaissance at the time of Galileo.

In recent years, we have had an excellent opportunity to re-examine this problem scientifically. The main interest of the Psi-Physics Group at the Institute of High Energy Physics is focused on whether there are any known or unknown radiation signals associated with psi processes, and, if there are, how to probe and understand them.

According to the ancient Chinese view: "All forms of matter in the universe bathe one another with information," and the dynamic patterns of their movements and changes give rise to certain structures, as stated in the I Ching. There were many penetrating and brilliant claims with regard to psi in the ancient Chinese books. To cite a few here, Lao Tzu: "Penetrating the void, extremely, keeping still firmly, then everything will operate, and I can see all aspects of a thing;" Kangcang Tzu: "When the body matches the mind, and the mind matches the Chi (or Qi), . . . I can see remote targets as if they were under my nose . . ."; Chang Tzu had similar words: "Keeping in one-will, one can hear not with the ears but with the mind; in fact, not with the mind but with the Chi." The ancient Chinese view was one of the most beautiful models of an integral, hologramic and dynamic universe in ancient civilization, and one in which the conception of Chi played a very important role.

The Chi is considered today somewhat like radiation in modern physics, but there is a difference in that the Chi concept emphasizes not only an energy aspect, but also an information aspect. Thus it is emphasized that Chi makes it possible for separated bodies to transmit information as well as energy to one another.

Modern physics has proven that all objects in the universe can emit radiation. Radiation phenomena associated with non-living objects in the field of nuclear and elementary particle physics have been intensely investigated and are still undergoing deeper study. But what about living objects? Because the spontaneous radiation associated with living objects is very weak and intricate in their normal state, this subject has escaped physicists'

attention for many years. However, such radiation has been observed in our laboratories to be rather strong as psi processes occurred. For some time abnormal physical and biological disturbances have been registered on a repetitive basis. Results obtained with the use of real-time systems and various targets under different conditions indicated that radiation signals may be correlated with psi process. We have tested for psi effects with various ionization and non-ionization detectors and found that films (X-ray, nuclear emulsion, and photographic film), thermoluminescence dosimeters, photomultiplier tubes and the like, and some biological material detectors (e.g., a live plant leaf) are apparently the most effective in the capture of psi radiation signals.

Data obtained in our experiments are stimulating, and provide information relevant to the following problem areas:

- (1) The possibility (and necessity) for psi detection.
- (2) The probability of psi events and their detection.
- (3) Multifunctioning of psi and the multieffects of its detection.
- (4) The role of the observer.
- (5) Target design.
- (6) Psi radiation signal characteristics so far observed:
 - (a) Transient and impulsive, with observable rise time and decay constants, high slew rate and a broad frequency range.
 - (b) Multivarious responses.
 - (c) Non-locality or super-penetrating.
 - (d) Strong "specks" and psi nuclei (i.e., concentrations).
 - (e) Spatial focus effect.
 - (f) Self-organization.
- (7) Compatibility of detection techniques between psi research and high-energy physics.
- (8) A more comprehensive psi spectrometer system, establishing psi radiation signal waveforms.

Although we do not as yet have any essential understanding about psi phenomena, continuous investigative

efforts are obviously necessary. Psi phenomena are widespread in the living world. From the standpoint of physics, living systems are quite unusual systems, and the radiation associated with life processes might itself also be quite unusual. This point of view is confirmed in our own experiments. The characteristics of psi radiation signals observed in our laboratories are quite different from any other known physical radiation from non-living systems. We now prefer to consider this kind of radiation as a new type of radiation unspecified before.

Our era is an era of exploration; many interesting and fundamental discoveries have broadened our scientific horizon. Psi research will probably not only introduce us to a new channel for information and energy transfer, but will also make a contribution to some fundamental problems in quantum and modern communication theories. For example, the role of the observer in quantum mechanics has been a recurrent theme for many years, wherein microscopic events are no longer independent of the experimental device and observer. Very parallel conditions have been encountered today with psi events. Is the role of the observer an essential one in nature? Can we put forward a second Uncertainty Principle for psi events at the intermediate or macroscopic level? Can one write $R \times P = C$, where R is the degree of rigor of the observer system; P is the probability of occurrence of a psi event, and C is a constant of nature? These questions can only be answered through further experiments designed with great precision and sophistication, as well as through the use of comprehensive and rigorous mathematical concepts to be developed for describing complex events.

As the SPR enters its second century, let us say something more. The history of the successful development of physics for nearly 400 years has shown that the experimental method is a successful method in science. We are convinced that psi research will establish its own experimental methodology in the not too distant future. With the aid of experimental methods and theoretical considerations developed in modern physics and electronics, one can probe psi processes more deeply.

International interaction and cooperation in this field are especially important. When ancient civilization is properly interfaced with modern technology, when the Eastern cultural tradition is closely integrated with Western scientific thought, a truly golden time of science will be here, the brilliance of which will be more glorious than its first Renaissance period.

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EHBF Radiation: Special Features of the Time Response

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In early experiments we used standard nuclear emulsion film techniques to measure radiation associated with exceptional human body function (EHBF). Results showed that under certain special conditions of exceptional functioning, individuals emit some type of radiation which registers on film as would light.

To follow up these results we carried out further experimentation using a photomultiplier tube measurement system as a detector of EHBF radiation. In this work, signals were detected in measurements monitoring individuals with special skills. The following is a summary of these measurements.

For the first series of measurements we used a system for which the background count rate was about 100 counts per 6-sec interval. During experiments to measure EHBF radiation, peak count rates reached approximately 10^5 counts per 6-sec interval, an increase of 2 to 3 orders of magnitude relative to the background. The accompanying figure (Fig. 1) is of the output of a standard multichannel analyzer. With the scale set to observe count rates associated with EHBF radiation, the background count rate does not show in this figure because of its small magnitude.

Over the period during which we measured EHBF radiation many times, we discovered that the radiation appeared in the form of pulses of extremely short duration. In order to

improve the accuracy of our measurements of EHBF radiation, we then assembled the following system.



In this configuration, EHBF radiation detected by the photomultiplier tube is sampled at a 1 millisecond rate. The output of the sampling circuit is fed into a microprocessor, which processes the data and thus acts as a radiation monitor. Using this particular system to study EHBF radiation, we are able to study such radiation in the time domain.

When one examines sequences of millisecond intervals during which EHBF radiation is detected, one observes three kinds of typical behavior:

- (1) 0, 1, 1, 1, 1, 2, 14, 0, 3, 12, 62, 1, 1, 0, 2
- (2) 0, 2, 1, 0, 0, 0, 0, 82, 0, 0, 1, 1, 0, 0, 1
- (3) 0, 0, 0, 0, 6, 13, 98, 45, 1, 0, 0, 1, 0, 2, 0

The above sequences were obtained during efforts of a little girl to recognize hidden words sealed in an opaque enclosure containing the photomultiplier tube. The changes occurred during the time she recognized a word correctly. For comparison, the background count rate typically does not exceed 4 counts per millisecond interval.

The above results indicate that EHBF radiation occurs during time intervals of only a few milliseconds, and in some cases may occur as pulses of less than 1 msec duration. In other words, whenever radiation appears, the appearance is very short, and the transient change is extreme [emphasis added - Ed.].

Although in our experiment it would appear that we have measured light, this does not necessarily mean that EHBF radiation is in the form of light. All we can say is that in this test we have obtained the particular effect described. Since the enclosure containing a word to be recognized is opaque to light, one possibility is that the

EHBf radiation signal has the special property of being able to penetrate the shielding material, whereupon the radiation interacts with other material within the enclosure to produce light. This signal is then registered, and it is the measurement of the light signal which reveals the temporal characteristics of the EHBf radiation. Therefore, the actual carrier mechanism involved in EHBf radiation is still an open question that requires further study.

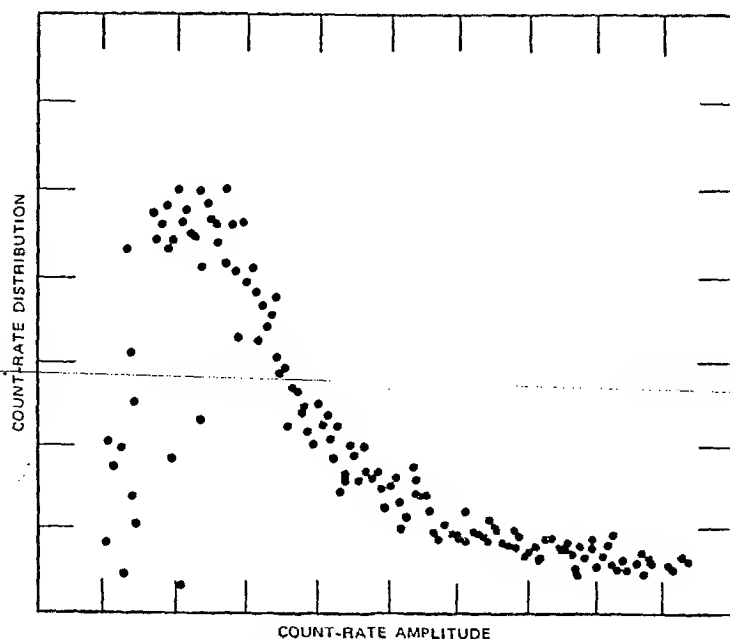


Fig. 1. Multichannel analyzer output

DECIPHERING THE NERVE CODE OF HUMAN MENTAL ACTIVITY: SOVIET RESEARCH

Dr. Alexander Kaplunovsky
Kfar Saba, Israel

The article presented below is translated from Tainovedenie (No. 2, 1982), an Israeli magazine in Russian published by Avraham Shifrin and a group of emigrants from the USSR. Though it is not directly connected with studies of psi, we feel that it might be of interest to our readers.
- Ed.

In the middle of the 1970's researchers in the Soviet Union had come very close to solving the problem of deciphering the nerve code of human mental activity. Conducting research in this area became possible after the implanting of multiple long-term electrodes came into clinical practice. The theoretical purpose of the research was the study of the neurophysiological coding and decoding of the brain's structural and functional organization in response to psychological tests on short and long-term memory.

The practical goals of the research were:

1. A more precise formulation of clinical diagnosis of cerebral lesions and a better choice of optimal methods of treatment.
2. The development of methods for selecting the optimal locations in the brain for treatment and regulation by electrostimulation.
3. Controlling memory processes.
4. Deciphering a subject's mental activity on the basis of the statistical processing of the activity of neuron populations in deep brain structures.

I was a direct participant in researching this topic, first as a volunteer student (1965-1970) and later (1970-1975) as a research associate at the Department of Human Neurophysiology of the USSR Academy of Medical Sciences' Institute of Experimental Medicine in Leningrad. (The head of the department and Director of the Institute is

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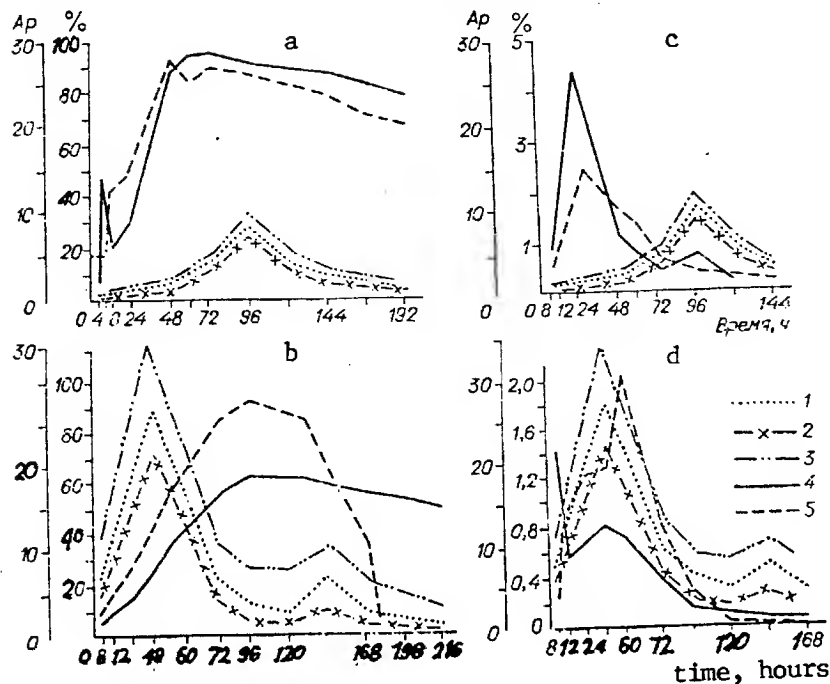


Fig. 7. The influence of the helio-geomagnetic situation on the cellular monolayer in conditions of high latitudes. 1 - Ap index (planetary index of geomagnetic disturbance); 2 - K-index in Novosibirsk; 3 - K-index in Norilsk; a and b - the density of the monolayer growth: 4 - in Novosibirsk, 5 - in Norilsk; c and d - mitotic activity: 4 - in Novosibirsk, 5 - in Norilsk.

Research demonstrated that during magnetically calm days, when the Ap was less than 10, and interplanetary magnetic field polarity was determined as positive (+), the monolayers in both Norilsk and Novosibirsk were viable, and considerable differences in their growth were not recorded. During days of magnetic disturbance, when the index Ap increased to 28-36, and changes in interplanetary magnetic field polarity were observed (\pm), the growth of the monolayer was vigorous in Norilsk; and the mitotic activity of the monolayer was 2.5 - 3.0 times higher, but its lifetime became 1/3 shorter, i.e., the monolayer was characterized as less viable.

BIODETECTOR EXPERIMENTS ON HUMAN BODY RADIATION PHYSICS

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(Ziran Zazhi [Nature Magazine], Vol. 4, No. 8, August 1981)

This article demonstrates an interesting approach to studying exceptional human functioning, yet unfortunately it lacks some important technical details and does not offer statistical evaluation of the obtained results. Nevertheless, we think it worthwhile to present this approach to our readers, and we will continue the discussion of these experiments in our next issue - Ed.

1. Studies of the Physical Mechanism of Human Body Radiation

For the past year we have concentrated our efforts on developing physical methods for detecting radiation associated with exceptional human functioning. We have discovered a detection method that uses nuclear emulsion film and negative X-ray film. Using this method, we observed multiple exposures produced by radiation emitted from persons who were demonstrating exceptional capabilities. Among these exposures were images of written Chinese characters that were recognized by exceptionally gifted individuals, as well as traces and special patterns from objects that were influenced by specially gifted persons.

In our experiments the radiation emitted by exceptionally gifted persons was directly detected by a phototube, while photographic film isolated in a light-proof box indirectly detected this same radiation. We also used a biodelector [described below] to successfully record the radiation of persons with exceptional energies and persons who have learned to control their muscles and mental

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energies.

The results obtained with these different measuring devices were positively correlated, in that each time a character was correctly recognized, a response from the respective detector was recorded [either the above types of film were exposed or the biodetector produced an electric signal]; when the characters were not recognized, there was no response from either of the detectors. This paper presents our experiments with the biodetector. We do not, as yet, know what is the actual carrier of the special-energy radiation of the human body. There are two views concerning this problem: One view holds that we are dealing with a known, purely physical and chemical phenomenon. According to the other view, the observed phenomenon is totally unknown and is not simply physical or chemical; rather, it is related to an unfamiliar state of matter which is intimately connected with the phenomenon of life itself. The radiation emitted by exceptionally gifted persons possesses strong penetrative power, and can be willfully controlled, directed, developed, and adapted. It also has other peculiar properties which cannot be explained by purely physical terms.

The latter point appears to support, to a certain extent, the position of those who believe that the observed phenomenon cannot be explained in known physical terms. Yet, in order to thoroughly clarify this question, we need to develop new types of detectors and biodetectors. Our experiments represent preliminary steps in this direction.

2. The Basic Structure of the Biodetector

The concept "bio" pertains to a living body. As the primary sensitive element of the detector, we used a living system, which was connected to an electrical circuit (Fig. 1). The entire experimental apparatus consisted of the biodetector, an amplifier, and a recording device.

(1) The biodetector consisted of a fuqianhua [a floating plant] leaf, a sample box and two detector needles. Both detector needles were carefully inserted into the leaf's main vein at a minimum depth. As soon as the needle's point was inserted, the attached voltmeter reacted.

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If it indicated a reading of from 1 to 4 volts, this meant the detector was suitable (since the amplifier increased the voltage by a factor of 10, the potential of both detector needle points in the leaf surface was from 0.1 to 0.4 volt). If this reading was not achieved, the position of the detector needles was considered to be inadequate. The peak value of background pulsation on the recording apparatus could not be higher than 0.1 volt. Experience showed that it was not difficult to find the right needle position. We used two sharp 0.1 mm copper needles for the detector.

The plant leaf was the key point of the detector system. For the necessary stability, low inertia, high sensitivity, fast ascension and reaction time, the fuqianhua leaf, according to our experience, met the basic requirements (although the repletion time could have even been extended somewhat). After the detector needles were properly inserted, the discernible hieroglyphic images [Chinese characters] were put into the box, its cover was closed, and the detector needles were connected with the amplifier. Thus, the detector was ready for use. The box cover eliminated much outside electrical noise.

(2) We used an SF-72 data amplifier, manufactured by the Soochow plant, with a low noise level. Generally, the amplification multiple of this unit was 10. For the input procedure we used dual-terminal inputs. Grounding is not necessary; outside shielding is required.

(3) The X-Y recorder from France was used with an operating speed of 10 impulses/second [translation unclear - Ed.] and a sensitivity of 200 mcV per scale division.

3. Test Results

After connecting the apparatus properly and warming the circuits, we took the leaf off its stem and placed it in the box. The detector needles were inserted carefully into the leaf's main vein. The basic requirements were proper adjustment of the detector and having the hieroglyphic images ready for each trial. When an exceptionally gifted person correctly recognized the hieroglyphic images inside the box, there was immediately something like a "flash" in his brain [as described by the gifted individual]. We then

evaluated the correlation between these tests.

Our experimental apparatus first reacted in March 1980, while we were testing the little girl, Yen. Due to the continuous technical improvement of our detector, the following exceptionally gifted persons were subsequently tested successfully: Yu from Hebei province, little Jie from Wuhan, Mou from Heilongjiang province, and others.

Fig. 2 presents an oscillogram of the radiation produced by Yu's recognition of the characters "sheep" and "oxen." Many successful tests were made with the specially gifted persons, Cao from Beijing and Liu from Jilin province. There was a strong correlation between the correct recognition of the characters and the signals recorded by the detector (see the oscillograms on Fig. 3). During the time of mental concentration, specially trained persons [qigongren, i.e., individuals practicing the ancient Chinese art of Qigong, which includes movement, breath control, and meditation] could also be tested with this detector (see Fig. 4).

From the above experiments, we have reached the following conclusions:

(1) The biodetector can receive signals which appear in particular mental states and which are emitted by specially gifted or trained persons. In order to answer the question of whether or not the detector was influenced by known physical energies, we conducted a number of tests: we opened the box and lit up the detector with a strong 1,400 W iodine-wolfram electric bulb from a distance of 1 m. We also lit up the detector with a very wide-spectrum 60 W bulb from a distance of 10 cm. We subjected the detector to the influence of a strong far-infrared 100 W iron, a near-infrared radiation source, and a gamma radiation source from a distance of 10 cm. None of these influences produced any noticeable response. When the recognition of characters was tested with the box closed, even increased physical disturbance from outside could not influence the detector. From this we concluded that changes in the correlation between potentials recorded by the biodetector, and the subject's state of mind, resulted from a stimulation of the leaf in the detector by a special human radiation which penetrated the box cover.

(2) The radiation from exceptionally gifted persons came in spurts, thus the oscillogram showed pulsations. The pulsating was relatively rapid, occurring in less than a second. If the exceptionally gifted person continued to have "flashes" in his brain, the oscillogram [the response of the biodetector] continued to indicate them, whereas the oscillographic ascent was relatively slow during emission from qigongren [specially trained persons].

(3) As to the extent of oscillation, it was much greater during a unit of time for exceptionally gifted persons than for others. Liu's extent of oscillation during his strongest radiation was several volts; Yu's was about one volt. When they recognized a Chinese character, the extent of radiation changes could reach up to several hundred millivolts. For qigongren, during one second the maximum changes reached the millivolt level. This might be the main reason why they could not recognize the Chinese characters. Yet, energy emissions by qigongren were maintained for a long time and could accumulate, so that their healing effects were satisfactory. Further study is needed as to the healing effects of exceptionally gifted persons.

(4) These experiments not only proved that exceptional energy of the human body radiation represents unknown physical matter; they also proved that this kind of matter could be closely connected with a living body. Furthermore, these experiments have led to a more advanced method for studying the physics of human body radiation.

4. Important Notice

During experiments with the biodetector, attention must be paid to the following:

(1) Although we made a repeated selection of leaves to be used for the detector, the leaves we used still possessed delayed reaction time, which influenced the fine structure of the observed special radiation. This key problem must be overcome in future experiments.

(2) Each leaf must not be used for too long. Generally, after two hours the sensitivity of a particular leaf decreases.

(3) The position of the detector needles is very important. We found inserting the needles into the leaf's main vein to be a good approach.

(4) The detecting system must be well shielded electrically. If there is excessive electrical noise, the recording tests cannot be properly carried out. On the whole, the disturbance oscillation patterns above our recording apparatus did not surpass 100 millivolts.

5. Concluding Remarks

This testing method is still imperfect, and there remain many insufficient aspects which must be improved by further study. We have only presented a new experimental procedure.

During the experiments we were greatly assisted by Tang Xiaowei, Fang Deng, Zheng Zhipeng, Wang Guanyou and by the subject Yu of Cangxian, Hebei province, the Scientific Committee, by Liu Xiankui and the subject Liu of Jungjiang, Jilin province, by Cao Wei and the subject Cao of the Beijing Institute of High Energy Physics.

This paper was read and improved by scientists Zhao Zhongyao, Xu Jianming and Tang Xiaowei.

English Translation by J.H. Paasche

Ziran Zazhi
(Nature Magazine)
Shanghai, China

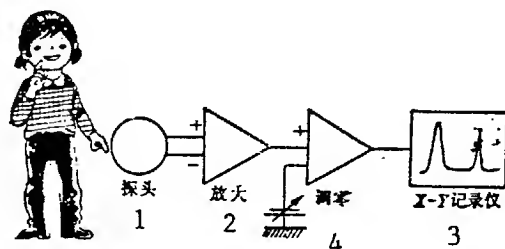
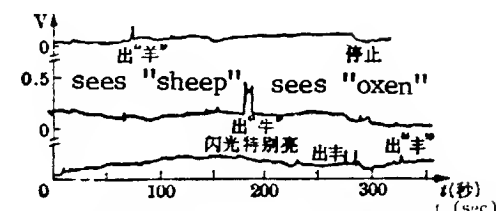


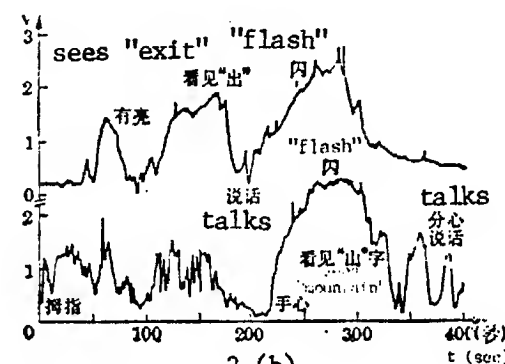
图 1 生物探测器示意图

Fig. 1. Diagram of the biodetector
1 - detector leaf; 2 - amplifier;
3 - recorder; 4 - set at zero

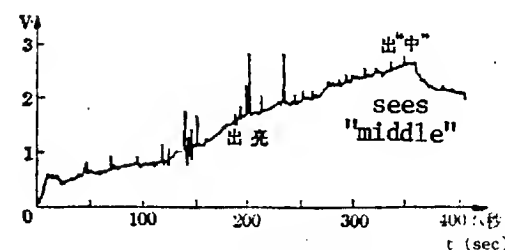


持异人于××认字时留下的波形，K=50000倍
(放在探头中的试样为：“羊牛”)

2 (a)



2 (b)



▲ 图 2 (c)

Fig. 2. Oscillograms recorded during recognition of Chinese characters by exceptionally gifted persons.

a - reading the characters "sheep" and "oxen" by a gifted person Yu; b - reading the characters "exit", "mountain"; c - reading the character "middle" by a gifted person Cao; amplification factor K = 10.

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ASYMMETRY VERSUS CHAOS, OR "WHAT IS THE BIOFIELD?"

V.E. Zhvirblis

(Khimiya i zhizn', Moscow, No. 12, 1980)

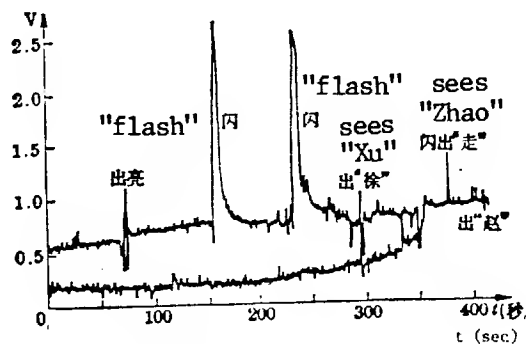


图 3(a) K=10, 试样: 徐赵

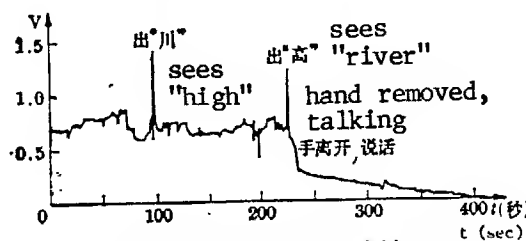
图 3(b) K=10, 试样: 高川
均为特异人刘×认字时留下的辐射波形

Fig. 3. Oscillograms recorded during recognition of characters by the gifted person Liu (K=10).
a - reading the characters "Xu" and "Zhao"; b - reading the characters "high" and "river".

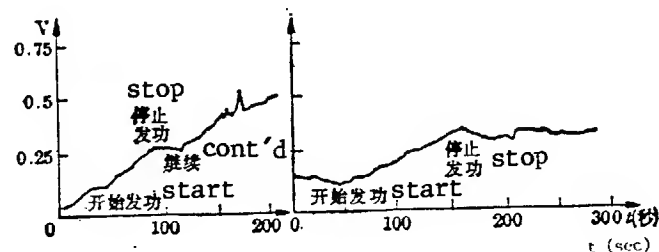


Fig. 4. Oscillograms of radiation emitted by specially trained persons (K=10).

I. To the question "What is the biofield?" most sober-minded scientists will answer: "This is something that does not exist and cannot exist, as equally the phenomena, which the biofield is specially invented to explain, do not exist and cannot exist."

Actually, the biofield is used to explain a great many biological miracles: telepathy and telekinesis, dowsing and healing by laying on of the hands, mitogenetic rays, and so forth. It is difficult to believe in all these surprising phenomena, not only because they are surprising in themselves, but because everything is mixed together here: genuine scientific observations with honest results of methodologically weak or wrongly interpreted experiments; direct and masked deception; and the pseudo-scientific writings of uninformed individuals. How can anyone find the nucleus of scientific truth in this confusion?

The simplest way is not to search for anything and to declare all these messages as pure nonsense [1]. In scientific circles this position is distressingly popular - distressingly because it encourages the spread of unqualified pseudo-research and rumors of the mysterious, miraculous essence of life. In this sense, even negative results obtained in the cause of serious study would be useful and worth the expenditure of energy. At the same time, who can claim that today we know absolutely everything about the essence of life?

However, the position of those who have no doubts about the existence of the biofield is not convincing either. Here, for example, is the viewpoint of corresponding member of the Academy of Sciences of the USSR, A.G. Spirkin: "Some scientists believe that they [biofields] are a manifestation and systematic effect of known physical fields, but others hypothesize that they are special fields having nothing in common with the known ones: electrical, electromagnetic, magnetic, gravitational, sound, etc. The biofield has special properties not possessed by other physical fields -

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